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Appl No.: 10/623,227
Reply to Office Actions of 10/5/06 & 1/29/07

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Atty. Dkt. No:
UCP-273DIV

This listing of claims will replace all prior versions, and listings, of claims in the application:
Listing of Claims

Claims 1 – 36 (Cancelled).

Claim 37 (Currently Amended). Carbon particles having surface filaments used in oil spills, comprising in combination:

a plurality of carbon filaments that are [are] approximately one micron in mean diameter,
the carbon filaments consisting solely of carbon black, [in average and from at least one to two
orders of magnitude thicker than conventionally produced carbon nanofibers];

[an a hydrophobic,] an “octopus” like a structure of loose curved elongated worm shaped
filaments, with a portion of the structure being substantially hollow, and each of the loose curved
elongated worm shaped filaments being substantially of tubular, longitudinal uniformity and of
graphitic structure; and

a hydrophobic property of oil film adsorption from a surface of water.

Claim 38 (Cancelled).

Claim 39 (Currently Amended). The method of producing carbon particles for cleaning oil
spills, having surface filaments of about one micron mean diameter, a an “octopus” like structure
worm-shaped with a hollow portion, and tubular, longitudinal uniformity, of graphitic structure,
consisting comprising the steps of:

a(1) passing electrical current through [carbon-based] catalytic material that consists solely
of carbon black and;

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a(2) heating [(it)] the catalytic material consisting solely of carbon black to about 850°C to about 1200°C;

b) passing a stream of hydrocarbon fuel through said the [carbon based] catalytic material consisting solely of carbon black with production of hydrogen-rich gas and carbon with filamentary surface deposited on the surface of said the catalytic material; and

c) recovering carbon particles with a filamentary surface, wherein the carbon particles have surface filaments of about one micron mean diameter in an "octopus" like a structure of loose curved elongated worm shaped filaments, with a hollow portion, and each of the filaments having a tubular, longitudinal uniformity, of graphitic structure: and

(d) using the carbon particles for the clean-up of oil spills on the surface of water.

Claim 40 (Canceled).

Claims 41 – 43 (Canceled).

Claim 44 (New). The carbon particles having surface filaments used in oil spills of claim 37, wherein the plurality of carbon filaments are produced solely in the presence of carbon-based materials.

Claim 45 (New). The carbon particles having surface filaments used in oil spills of claim 44, wherein the plurality of carbon filaments are approximately four to approximately 2000 nm in diameter.

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Claim 46 (New). The carbon particles having surface filaments used in oil spills of claim 44, wherein the carbon based materials are selected solely from carbon black (CB).

Claim 47 (New) The carbon particles having surface filaments used in oil spills of claim 44, wherein the plurality of carbon filaments form an "octopus" structure as shown in Figure 4.

Claim 48 (New). The carbon particles having surface filaments used in oil spills of claim 47, wherein the "octopus" structure consists of loose, curved, elongated worm shaped filaments, and wherein a portion of the filaments is hollow, tubular and longitudinally uniform.

Claim 49 (New). The carbon particles having surface filaments used in oil spills of claim 48, wherein the hydrophobic property includes: clean-up of oil spills on the surface of water.

Claim 50 (New). The carbon particles having surface filaments used in oil spills of claim 48, wherein the hydrophobic property includes: a hydrophobic sponge to adsorb the oil film from the water surface.

Claim 51 (New). The carbon particles having surface filaments used in oil spills of claim 48, wherein the hydrophobic property includes:

particles scattered over the water surface of an oil spill pellicle, wherein the particles breakup the oil pellicle and form a plurality of separated oil/carbon isles.

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Claim 52 (New). The carbon particles having surface filaments used in oil spills of claim 51, further comprising:

a net, wherein the isles are removed from the water surface by brushing with the net.

Claim 53 (New). The carbon particles having surface filaments used in oil spills, wherein the oil/carbon isles of claim 52 are removed from the water surface in a oil/carbon slurry.

Claim 54 (New). The carbon particles having surface filaments used in oil spills , wherein oil/carbon slurry of claim 53, wherein captured oil is retrieved from the slurry using a press separator.

Claim 55 (New). The method of claim 39, wherein the catalytic material is solely the carbon black.

Claim 56 (New). The method of claim 39, whercin the catalytic material consists of: solely iron and aluminum oxide (Fe-alumina).

Claim 57 (New). The method of claim 56, wherein carbon particles deposited on the Fe-alumina catalyst are used for the oil spill clean-up on a water surface, and form oil/carbon isles that sink and remain under water until oil is microbiologically consumed.

Claim 58(New). A method of cleaning-up oil spills with carbon particles, comprising the steps of:

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forming carbon particles having a structure of loose curved elongated worm shaped filaments, with a hollow portion, and each of the filaments having a tubular, longitudinal uniformity, of graphitic structure, each of filaments being approximately one micron in mean diameter;

scattering the carbon particles on a water surface having an oil layer;

breaking the oil layer into a plurality of oil/carbon isles; and

removing the plurality of the oil/carbon isles from the water surface.

Claim 59(New). The method of claim 58, wherein the forming step includes the steps of:

passing electrical current through catalytic material that consists solely of carbon black;

heating the catalytic material consisting solely of the carbon black to about 850°C to about 1200°C; and

passing a stream of hydrocarbon fuel through the catalytic material consisting solely of carbon black with production of hydrogen-rich gas and carbon with filamentary surface deposited on the surface of the catalytic material and recovering the carbon particles having the structure of loose curved elongated worm shaped filaments, with a hollow portion, and each of the filaments having a tubular, longitudinal uniformity, of graphitic structure.

Claim 60(New). The method of claim 58, wherein the removing step includes the step of:

removing by brushing with a net.

Claim 61(New). The method of claim 58, further comprising the step of:

capturing excess oil by a press separator.